

WHAT IS CLAIMED IS:

1 1. A magnetic recording disk drive comprising:
2 a magnetic head for reading information from a magnetic recording medium
3 and writing information onto the magnetic recording medium;
4 a first set of conductors communicating signals from said magnetic head
5 during a read operation;
6 a second set of conductors communicating signals to said magnetic head
7 during a write operation;
8 said first and second sets being spaced sufficiently closely so that a degree of
9 interline crosstalk occurs when write signals are communicated on said second set of
10 conductors, said degree of interline crosstalk differing between normal and abnormal
11 conditions during write operations; and
12 a circuit that distinguishes normal and abnormal conditions based on detecting
13 said interline crosstalk and determining whether said degree of interline crosstalk meets a
14 condition specifying an abnormal condition.

1 2. A magnetic recording disk drive comprising:
2 a magnetic head for reading/writing information on a magnetic recording
3 medium;
4 a preamplifier having a write abnormality detection function; and
5 a transmission line for transmitting read/write signals between said
6 preamplifier and said magnetic head, wherein said transmission line from said preamplifier to
7 said magnetic head includes a section in which a write line and a read line run alongside of
8 each other to produce interline crosstalk, said transmission line being formed such that it is
9 branched within a read preamplifier;
10 a detection circuit for receiving a signal from a line branched off within said
11 read preamplifier to detect an interline crosstalk amplitude value;
12 a signal source for outputting a threshold value used to determine whether an
13 interline crosstalk amplitude in said detection circuit is one obtained under normal conditions
14 or abnormal conditions;

15 a comparator for receiving and comparing an actual interline crosstalk
16 amplitude value and a threshold value, and when said actual interline crosstalk amplitude
17 value is larger than said threshold value, outputting a signal indicating a write condition
18 abnormality, said actual interline crosstalk amplitude value being an output of said detection
19 circuit, said threshold value being an output of said signal source; and
20 wherein said magnetic recording disk drive has a function to determine
21 occurrence of said write condition abnormality upon receiving said signal indicating said
22 write condition abnormality, said signal being output from said comparator.

1 3. The magnetic recording disk drive as claimed in claim 2, wherein said
2 transmission line from said preamplifier to said magnetic head is set such that a distance
3 between a center of said write line and a center of said read line in said section in which said
4 write line and said read line run alongside of each other is 3 to 5.5 times a width of said write
5 line.

1 4. The magnetic recording disk drive as claimed in claim 2, wherein said
2 transmission line from said preamplifier to said magnetic head is configured such that said
3 section in which said write line and said read line run alongside of each other is constructed of
4 one layer or two layers made up of an upper layer and a lower layer, said upper layer being a
5 line, said lower layer being a transmission line made up of a common potential conductor
6 layer.

1 5. A magnetic recording disk drive comprising:
2 a magnetic head for reading/writing information on a magnetic recording
3 medium;

4 a preamplifier having a write abnormality detection function; and
5 a transmission line for transmitting read/write signals between said
6 preamplifier and said magnetic head;

7 wherein said magnetic recording disk drive has a function to:

8 when an inductance of a load connected to a write line is 43% to 69% of an
9 inductance of a normal load, produce an interline crosstalk 1.35 to 2 times as large as an
10 interline crosstalk under said normal load, both interline crosstalks being produced from said

11 write line to a read line in said transmission line from said preamplifier to said magnetic head,
12 an amplitude of said interline crosstalk under said normal load being used as a reference;
13 detect and recognize a difference between amplitudes of said both interline
14 crosstalks; and
15 output a signal indicating a write condition abnormality.

1 6. A method for ensuring magnetic recording function of a magnetic recording
2 disk drive in which a magnetic head reads information from a magnetic recording medium
3 and writes information onto the magnetic recording medium, with read signals being
4 communicated from said magnetic head on a first set of conductors during a read operation
5 and write signals being communicated to said magnetic head on a second set of conductors
6 during a write operation, the method comprising:
7 during a write operation, sensing signals on the first set of conductors
8 representing interline crosstalk; and
9 determining whether the signals, so sensed, meet a condition specifying an
10 abnormal write operation.

1 7. A method for ensuring magnetic recording function of a magnetic recording
2 disk drive, said magnetic recording disk drive comprising:
3 a magnetic head for reading/writing information on a magnetic recording
4 medium;
5 a preamplifier having a write abnormality detection function;
6 a transmission line for transmitting read/write signals between said
7 preamplifier and said magnetic head;
8 a detection circuit for detecting an actual interline crosstalk amplitude value;
9 a signal source for outputting a predetermined threshold value;
10 an external interface for controlling said threshold value output from said
11 signal source; and
12 a comparator for receiving and comparing an output of said detection circuit
13 and an output of said signal source;
14 wherein said method comprises:

15 when an interline crosstalk amplitude under normal conditions is checked,
16 changing said threshold value output from said signal source by use of said external interface,
17 obtaining a threshold value at which an output of said comparator is inverted, and setting said
18 threshold value at which said output of said comparator is inverted as an interline crosstalk
19 amplitude value under normal conditions.

1 8. The method as claimed in claim 7, wherein said threshold value output from
2 said signal source is set within a range from said interline crosstalk amplitude value under
3 normal conditions to an interline crosstalk amplitude value under abnormal conditions.